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INSTITUTE FOR DEFENSE ANALYSES

**Does Privatizing Base Realignment and
Closure (BRAC) Cleanup Expedite
Closure and Reduce Costs?
Phase I Report**

J. E. Tumarkin, Project Leader

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INSTITUTE FOR DEFENSE ANALYSES

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Closure (BRAC) Cleanup Expedite
Closure and Reduce Costs?
Phase I Report**

J. E. Tumarkin, Project Leader
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PREFACE

This study was conducted by the Institute for Defense Analyses (IDA) in response to tasking from the Director, Program Analysis and Evaluation (PA&E).¹ The purpose of the task was to identify and evaluate possible approaches for PA&E to use in assessing budget alternatives to improve their ability to make early assessments of previously owned military lands, accelerate the transfer of those lands to private ownership, and reduce cost to the Department of Defense.

The members of the study team—Dr. Joel E. Tumarkin, Dr. Marilyn C. Bracken, and Mr. Harry Zimmerman—would like to thank the IDA Technical Review Committee for their helpful comments and suggestions: Dr. David L. Randall (Chair), Mr. Charles V. Fletcher, Mr. James E. Fleury, Dr. Phillip Gould, Mr. John F. Kreis, and Mr. Windsor W. Lin.

¹ *Privatizing BRAC Site Cleanup to Expedite Closure and Reduce Costs*, Task BA-1-2094, Contract DASW01-98-C-0067/DASW01-04-C-0003.

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A. Glossary

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EXECUTIVE SUMMARY

In an effort to improve efficiency, reduce costs, and better align the military base structure with the changing needs of the military, the Congress and the Department of Defense (DoD) working together have closed, or changed the mission of, a number of military bases under a Base Realignment And Closure (BRAC) process. Before military facilities can be transferred to local communities for future economic development, it may be necessary to clean up environmental contamination left by decades of military activity on the sites. Even bases that are believed to have no contamination must be assessed to confirm they are uncontaminated.

The process of environmental testing and remediation has often been the slowest step in the base closure process. Environmental restoration can be expensive, and while the base is being restored it is still in the DoD inventory, resulting in continuing operations and maintenance costs.

Earlier environmental studies conducted by IDA strongly suggest that ways exist to expedite transfer of BRAC sites to the private sector. Early transfer authority

now allows the government to accelerate the transfer process, thereby allowing faster and less costly base closures and accelerated reuse. One IDA study recommended that an expeditious approach for DoD to divest itself of property and protect community interests is to integrate cleanup and transfer into a single turnkey operation.¹ The combined step, performed under the auspices of the new property owner (e.g., a master developer with expertise in environmentally contaminated properties), could allow the government (DoD) to divest the property earlier and shift certain cleanup decisions to the end user. In theory, an experienced developer could potentially combine cleanup with site redevelopment. Important site planning decisions, based on knowledge of soil, water, and sub-surface conditions in general, could be made so as to combine the marginal costs of cleanup with the new or restoration construction costs. Unfortunately,

¹ IDA Paper P-3538, *Issues and Alternatives for Cleanup and Property Transfer of Base Realignment and Closure (BRAC) Sites*, August 2000.

few quantitative data are available to allow accurate calculation of potential savings and thereby assess the benefits of such an approach to privatization. An earlier IDA study² showed the ability to predict the nature and extent of contamination if the prior military uses of the land could be documented. Knowledge of the expected conditions to be found at a base could then lead to rapid site evaluation, best technology selection for cleanup, and more accurate early estimates of time and cost to restore the land to a level of acceptable risk for future use(s).

A. OBJECTIVE OF IDA TASK

IDA was tasked by the Director, Program Analysis and Evaluation (PA&E), to identify and evaluate possible approaches to be used by PA&E in assessing budget alternatives to improve their ability to make early assessments of previously owned military lands, accelerate the transfer of those lands to private ownership, and reduce costs to DoD. The sponsor envisioned a thorough review of prior experience by the military departments through the four rounds of BRAC and tasked the study team to: (a)

identify, evaluate, and prioritize approaches to accelerate the transfer of DoD land to private ownership, (b) assess the total cost experience and/or timelines from privatization and fixed priced contracting versus continued government cleanups, (c) identify methods to limit cost growth using expedited transfer of DoD properties and, (d) provide a methodology to prioritize selection of bases for accelerated transfer during future BRAC rounds.

B. STUDY SCOPE AND APPROACH

The IDA team examined a number of previous studies and approaches regarding accelerated transfer of BRAC sites, including privatization, as documented in the research literature, in the Services' histories, and in NATO publications. For purposes of this study, privatization is defined as sites where cleanup responsibilities were transferred to the private sector for a fixed price. The following two approaches were examined:

- The site is remediated before the deed is transferred using guaranteed fixed price remediation (GFPR).
- The deed for the property was transferred using early transfer authority, and recipients using an Environmental Services Cooperative Agreement (ESCA) completed cleanup.

² IDA Paper P-3399, *Comparative Evaluation of Contamination at Energy and Defense Sites, Phase II*, March 1998.

Both of these approaches incorporate the use of environmental insurance. What formerly was uncertainty with respect to the cost of cleanup can now be reduced to risk, and that risk is passed on to an insurance carrier for a fixed price. The military Services have determined that the cost of such insurance is an allowable cost under ESCA or a GFPR. Such insurance can name the United States an additional insured party. In doing so the government is protected from the risk that the remediation will cost more than the parties have contemplated, except under the most catastrophic circumstances. The government does have continuing responsibility in the event of subsequently discovered contamination under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) warranty provided at 42 U.S.C 9620.

The study team developed a list of research questions for the Services. Information requested included the nature of BRAC property transfers, cleanup status by base, Cost-To-Complete (CTC) estimates in FY00 and FY04, cleanup expenditures during that time, caretaker costs, privatized cleanups including ESCAs coupled with early transfers and guaranteed fixed price contracts, and acres remaining to be transferred by each Service. The study team held meetings with each of the Service BRAC and Environmental Program

key personnel and with key Office of the Secretary of Defense (OSD) personnel. The study team received data from each Service in response to the research questions and developed a database by Service. The scope of the task included evaluation of the data and gaining an understanding of major issues associated with the transfer of property. Legislative barriers were reviewed to determine anything that might inhibit accelerated privatization or transfer of property. The Services were provided with a summary of their individual data and given the opportunity to provide additional information on property transfers and changes in CTC as a result of end of the fiscal year activity.

C. SUMMARY OF DATA

The data covered 155 BRAC installations and represented the total inventory of BRAC bases the Services were still managing or reporting to OSD as of the beginning of the study period (FY00). Data included information on the installation, total acres of the BRAC installation, the acres to be disposed after internal DoD and other federal government screening, the acres disposed, and the remaining acres to be disposed. In addition, acres that were leased in furtherance of conveyance (LIFOC) were obtained. While it is a practice in DoD to consider these

acres transferred, the study team did not identify them as such since the property has not been conveyed by deed. The study team obtained the CTC data for FY00 and FY04 and the obligations for FY00-03, caretaker costs and information on privatized cleanups, and other requested data. The study team also obtained data from the Department of Defense Environmental Restoration Program (DERP) Report FY02 on the primary use of the installation, the contaminants and media affected.

Data analyses resulted in a calculated CTC delta by using the CTC data from FY00, obligations from FY00-FY03, and FY04 CTC. Cost reductions or cost growth in cleanup costs were calculated for each installation by Service. These data were sorted in a variety of ways to assess the highest cost growth installations and their characteristics; those where there was no change (generally because cleanup had been completed); and those with the greatest cost reductions. Table ES-1 presents an overall summary of the bases included in the study.

Table ES-1. Summary Data by Installation

Total Bases	Totally Disposed	Partially Disposed	No Transfer to Date	1,000+ Acres Remaining
155	72	70	13	25

Table ES-2 presents a summary of acres subject to BRAC, the status of the acres to be disposed, acres remaining to be disposed, and acres that were LIFOCS.

Table ES-2. Summary Data by Acres

Total Acres Subject to BRAC	Acres to be Disposed*	Total Disposed	Remaining to be Disposed	LIFOCS
1,091,920	537,949	306,8000	231,147	93,785

*The Army has not closed several large bases where chemical-demilitarization activities are ongoing. When these operations are completed the property will be excessed and subsequently disposed.

Tables ES-3 and ES-4 present a summary of the Service-provided data on numbers of bases and acreage.

Table ES-3. Overall Summary by Service

Number of Bases	Army	Navy*	Air Force	Total
Total Reported	70	56	29	155
Totally Disposed	39	32	1	72
Partially Disposed	21	21	28	70
No Acres Disposed	10	3	0	13
Bases with 1,000+ Acres Remaining	9	4	12	25

*Navy also completed disposal of 35 Reserve Centers not included in this analysis because the property transfers were completed before FY00.

Table ES-4. Overall Acreage Summary by Service

Acres by Category (000)	Army	Navy	Air Force	Total
Total Acres	794	202	95	1,091
Acres to be Disposed	290	161	87	538
Total Disposed	179	76	52	307
Remaining to be Disposed	111	85	35	231
<i>Acres under LIFOCS*</i>	<i>68</i>	<i>2</i>	<i>24</i>	<i>94</i>

*LIFOCS included in Acres Remaining to Dispose.

D. FINDINGS

It has generally been thought by the Services and OSD environmental staff that over time the cost to complete

installation cleanups would be reduced. Sites would be better characterized and as the Services proceeded through the environmental restoration process, experience with remediation technologies and the regulatory process would result in lower costs. On the contrary, it appears that just the opposite is occurring, particularly when the government retains the cleanup function. Table ES-5 depicts the net cost growth (FY00-FY04) for those installations retained in the inventory and provides a broad summary of what has happened over 5 years.

Table ES-5. The Big Picture (\$ Millions)

	Cost to Complete (CTC) in 2000	\$4,369
CTC in 2004		\$3,542
Reduction in CTC		\$827
Cleanup Spending 2000-03		\$1,979
Delta (cost growth)		+\$1,152

Costs to complete for FY04 were subtracted from CTC for FY00, which provided the reduction in CTC of \$827 million. However, almost \$2 billion was spent on cleanup

during this period (FY00-FY03). Subtracting this from the cost reduction, the delta or cost growth is over \$1.152 billion. In other words, almost \$2 of cleanup funding was spent to achieve a \$1 reduction. The net cost growth exhibited roughly the same pattern for all of the Services.

Of the 155 BRAC installations analyzed, 84 had net CTC increases from FY00-FY04. Thirty-four had no change, primarily because the cleanup for these installations was completed before the study period. The 34 were included in the study because the sites still had property transfer issues—environmental is only part of the analyses. Thirty-seven installations had CTC cost reductions. Sixty-six installations had more than a 20% cost growth based on Service-provided data.

The 84 bases that experienced net cost growth accounted for \$1.460 billion or a 45% increase to the FY00 CTC for those bases. The mean net cost growth of these bases was \$17 million, but the range of the net cost growth was from \$11 thousand to \$304 million. With such a wide range, these data were examined to see if any particular sites were skewing the data. For analytical purposes, the study team temporarily removed McClellan AFB and Hunters Point, a Naval shipyard, which were the two sites with the highest

net cost growth of all bases reported. The remaining 82 bases that experienced net cost growth accounted for a 40% net increase to the CTC for those bases and had a mean net cost growth of \$12 million and a range of \$11 thousand to \$133 million. Clearly, the data set was large enough that these two bases did not substantially change the results. The two bases were not removed from the analyses.

The 37 bases that experienced cost reductions accounted for \$308 million or 28% of CTC in FY00 for those bases with mean net cost reduction of \$8.3 million. These cost reductions ranged from \$10 thousand to \$81 million. The statistical nature of the differences in net cost growth versus net cost reductions was apparent across all three Services.

Privatized cleanups were analyzed to assess the impact of privatization on CTC. Twenty-five bases with a CTC in FY00 equal to \$1.100 billion were subject to some degree of privatization for cleanup. Privatization contracts to date have generally not included cleanup of the entire base, although a few came close. The Army had 4 ESCAs and 7 GFPRs totaling \$124.4 million; the Navy had 4 ESCAs totaling \$150.5 million; and the Air Force had 10 GFPRs totaling \$17.9 million. Through these contracts and agreements, the Services basically privatized 27% of the

CTC in FY00 for those bases. These data do not include two major privatization efforts—Charleston Navy Base (\$38 million) and the Army Presidio of San Francisco (\$100 million) because those successful fixed priced cleanups predated the time covered by this analysis.

Of the 25 bases where portions of the cleanup were privatized, 18 of them experienced net cost growth, but that cost growth represented only 25% of the CTC in FY00 for these bases as compared with the 40-45% cost growth experienced by the total population of 84 bases with cost growth. Bases where some privatizing occurred had less cost growth compared to the total population of bases.

Lastly, at five bases property was transferred before environmental work was completed, but the military retained the cleanup responsibility. This small set of bases reported an overall net cost reduction of \$5.7 million or 7% of the CTC for those bases in FY00. Even though the overall performance of these five bases appears favorable compared to the total population studied, two of these bases where cleanup after conveyance had been continuing for some time had a 62% cost growth, which was surprising since it has always been presumed that with time the government would experience significant cost reduction in

cleanup. Three bases with retained cleanup reported anticipated cost reductions totaling 24% of the CTC for those bases in FY00. The team noted that the more mature sites in this category experienced higher than average cost growth. The three more recent transfers are predicting significant cost reductions but work has not yet been completed. The study findings make it clear that “early transfers” with retained cleanups do not necessarily limit potential for cost growth.

E. GENERAL OBSERVATIONS

This study showed that, at BRAC bases, net cost growth is being experienced at more sites and in greater percentages and absolute dollars than are reductions. These data also show that at those installations where cleanup was privatized (even partially) the Services experienced significantly lower rates of cost growth. The reasons could be that the sites were well or better characterized, or that the cleanup was not as complicated, or because some or all of the cleanup costs were “locked” by fixed price ESCAs or GPRs. The IDA team decided, based on knowledge that several large and complex cleanups had been successfully privatized, that the latter reason is the most compelling. There is a growing experience base in DoD showing

consistent cost savings or cost avoidance with GFPR compared to the continued government cleanup under traditional cost-plus contracts for environmental cleanups. Furthermore, major industrial fence-to-fence cleanups have been successfully privatized at Charleston (\$38 million), at the Presidio of San Francisco (\$100 million), and at Mare Island Shipyard in Vallejo, CA, where a \$78 million and \$53 million cleanup are being performed under fixed price ESCAs and include hundreds of remediation sites, and several including unexploded ordnance (UXO).

Although no definite conclusion can be drawn about minimizing total environmental cleanup costs, the data as analyzed, revealed that fixed price contracts minimize cost growth. Fixed priced contracts provide the best opportunities to complete the cleanup closest to projected cost to complete while minimizing risk to the government.

Several bases with unexpected additional costs, where no CTC was projected in FY00, resulted from newly discovered contamination. These were negligible percentages in terms of transferred sites or dollars.

Early transfer of BRAC property is beneficial to the local community because the earlier in the process the property is transferred and restored, the greater the

economic benefits that can be realized. From the DoD perspective, the earlier the property is transferred with a fixed price for cleanup locked in, the more the potential savings and cost avoidance from continuing cost growth and carrying costs of the property. The dollars not spent on such cost growth are then available to accelerate other cleanups and for other purposes. When property is transferred along with the cleanup responsibilities, the incentives of all parties change. Contractors work hard to clean the site within a fixed dollar amount. The government is largely removed from dealing with the regulators on the site restoration decisions. Federal and state regulators are focused on resolving issues and coming to agreement quickly to more fully support their local communities and major redevelopment efforts. The local interest groups can deal directly with the new owners of the property on issues related to future use of the property. The statistical findings in this study provide a clear indication that significant advantages and dollar savings could be realized by DoD in future BRAC rounds through a concerted effort to transfer property early with cleanups done by private enterprise to the fullest extent possible.

Recent legislation³ passed in December 2002 provides the authority to the Secretary of a military department to convey real property for natural resource conservation purposes. This authority allows transfer of BRAC property to nonprofit conservation organizations whose primary purpose is conservation of open space or natural resources. This new authority provides the potential for deed conveyance of surplus properties for continuing natural resource conservation, environmental remediation by conservation groups with funds provided by the government, and implementation of cleanup requirements consistent with property where access will be limited. The Services are pursuing opportunities for use of this new legislation and have had some early notable success.

F. FUTURE WORK

There are two distinct areas where future work in this same context might prove beneficial to DoD.

Development of Predictive Models. IDA has the ability to adapt its extensive earlier work linking prior uses of military installations with the nature and extent of cleanup requirements for each installation. IDA has also studied the optimal selection of remediation technologies for selected contaminants and the costs associated with them. Data collected on use of installations and types of contaminants found on these bases, and the BRAC history of cost growth or reduction by type of base or contaminant, can be used to develop predictive models for estimating future cleanups by type of base and appropriate remedial strategy. By adapting these models for use in the next round of BRAC, DoD could assess, quantify, and prioritize funding for future BRAC environmental cleanups early in the process.

Cleanup Data at Active Installations. While the purpose of this study effort was to assist in identifying approaches to accelerate the transfer of bases identified for closure during future BRAC rounds, this analysis revealed some unexpected cost data on continued government-managed cleanups that clearly disproves “conventional wisdom” that continued government-managed cleanups result in overall reduced costs over time. A similar set of analyses could be conducted for cleanups at active bases to determine cost growth/savings patterns over time to see if this is a

³ Section 2812, Conveyance of Surplus Real Property for Natural Resource Conservation Purposes, *Bob Stump National Defense Authorization Act for Fiscal Year 2002*, Public Law 107-314, December 2, 2002.

phenomenon unique to surplus properties or if the same patterns are being experienced but are not visible at active installations. If similar patterns exist, then privatization of cleanups at active installations could potentially save millions of dollars.

Phase I Briefing Report

OBJECTIVES

- **Identify and evaluate approaches to accelerate the transfer of land to private sector**
- **Assess the total costs and/or time savings from privatization and fixed-priced contracting**
- **Identify methods to limit cost growth using expedited transfer of DoD properties**
- **Provide a methodology to prioritize selection of bases for accelerated transfer for closure during future BRAC rounds**

DEFINITIONS

- Privatization is defined as sites where cleanup responsibilities were transferred to private sector for *fixed price*
- Two approaches:
 - Site is remediated before deed is transferred using GFPR (Guaranteed Fixed Price Remediation)
 - Deed for property is transferred using early transfer authority and cleanup is completed using ESCA (Environmental Services Cooperative Agreement)

SCOPE OF ANALYSES

- Prepared a list of research questions for the Services regarding:
 - BRAC property transfers; cleanup status by base; Cost-To-Complete (CTC) for FY00 and FY04; caretaker costs; privatized cleanups (including early transfers and guaranteed fixed-price contracts); and acres remaining to be transferred by Service
- Met with Service and OSD BRAC key personnel
- Developed a database by Service and conducted analyses

SUMMARY OF BRAC DATA

- Received data on 155 BRAC sites including:
 - Service
 - Installation
 - Primary Use
 - Contaminants
 - Media Affected
 - Total Acres
 - Acres to be Disposed
 - Total Disposed
 - Remaining to be Disposed
 - LIFOCS (leased in furtherance of conveyance)

SUMMARY OF BRAC DATA

(Continued)

- Data analyses:
 - Cleanup funding to date (DERP FY02)
 - CTC deltas FY00-FY04
 - Obligations FY00-FY03
 - Cost growth or cost reduction by base
 - Caretaker costs (FY03 and beyond)
 - Early transfers
 - Privatized cleanups
 - ESCA
 - GFPR
 - Acceleration (advancing disposal dates)

OVERALL SUMMARY COST DATA*

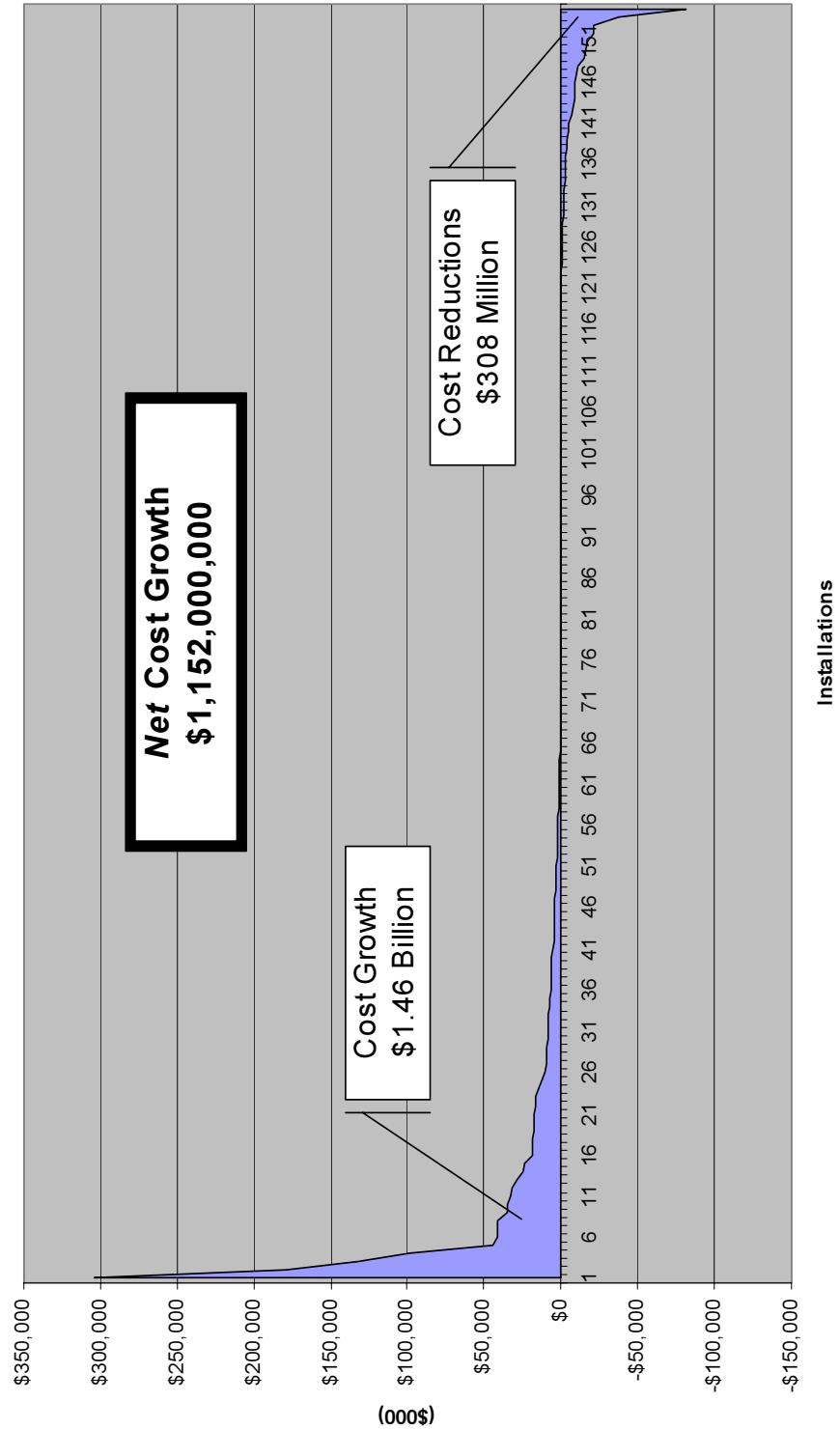
The Big Picture (\$)

Cost To Complete (CTC) in FY00	\$4,369,000,000
CTC in FY04	\$3,542,000,000
Reduction in CTC	\$827,000,000
Cleanup Spending FY00-FY03	\$1,979,000,000
<i>Delta (cost growth)</i>	<i>+\$1,152,000,000</i>

*Services provided data.

ALL SERVICES

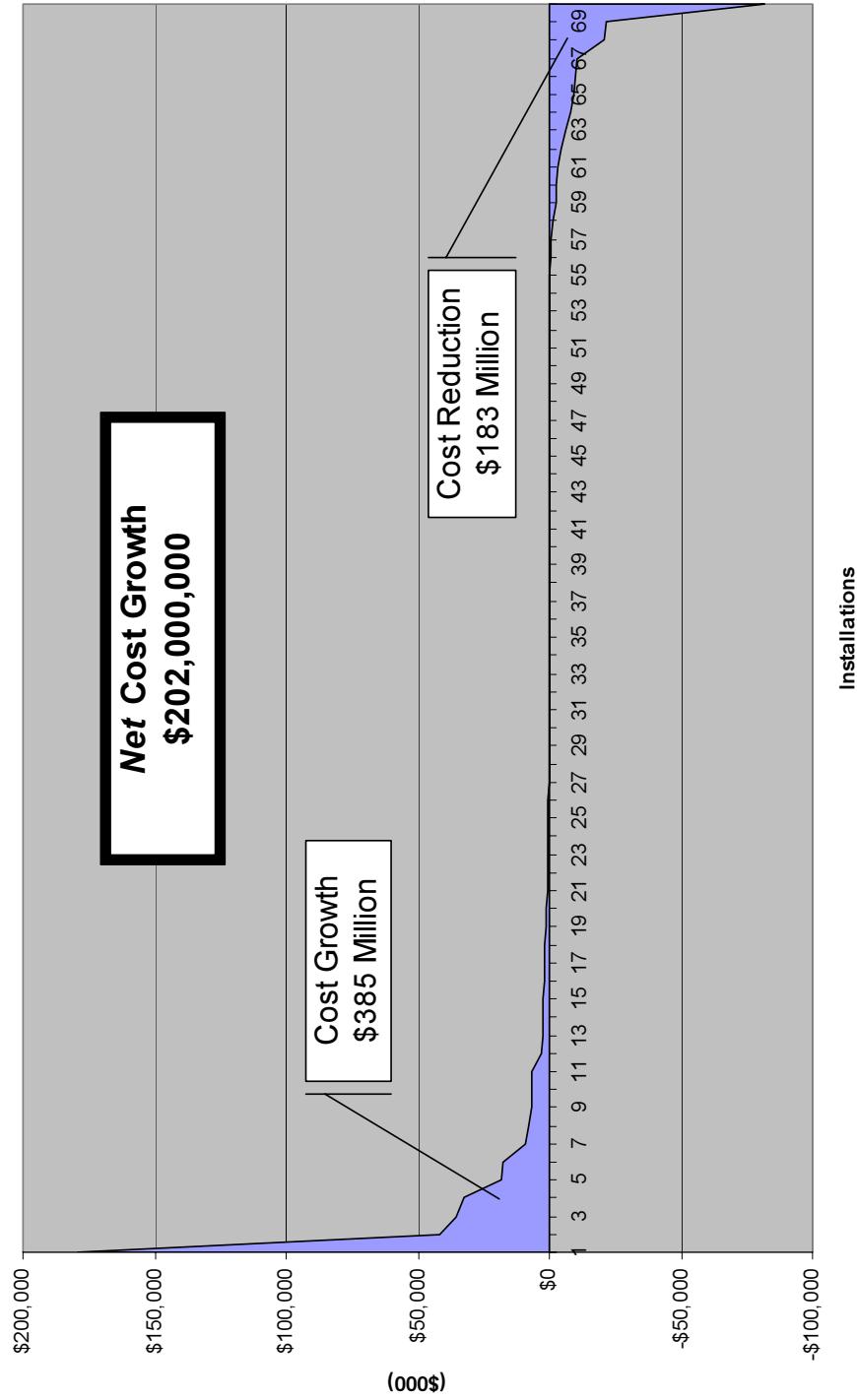
Cost Growth vs Savings - All Services



All Services experienced same pattern of cost growth

ARMY

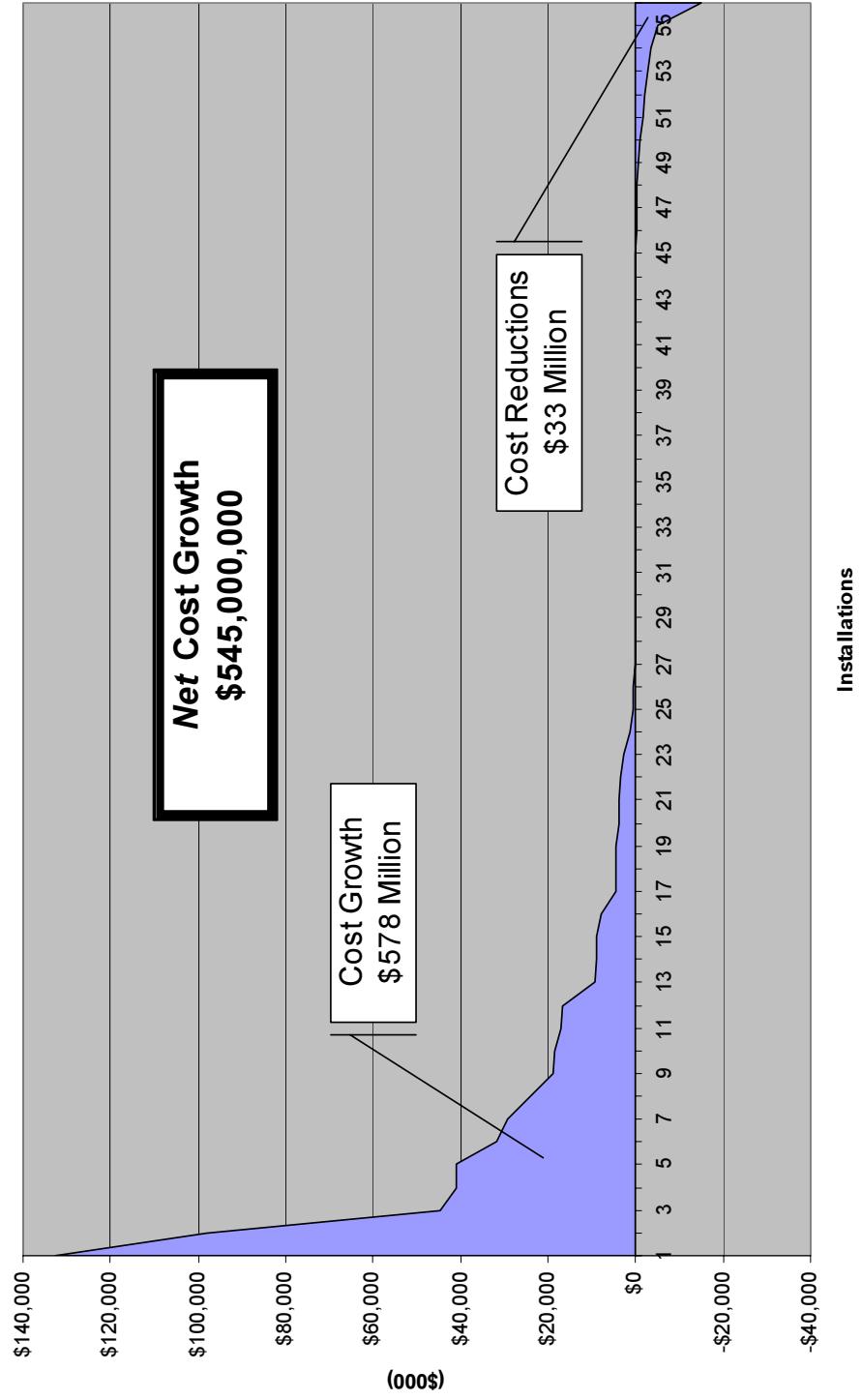
Army Cost Growth vs Reductions



Installations

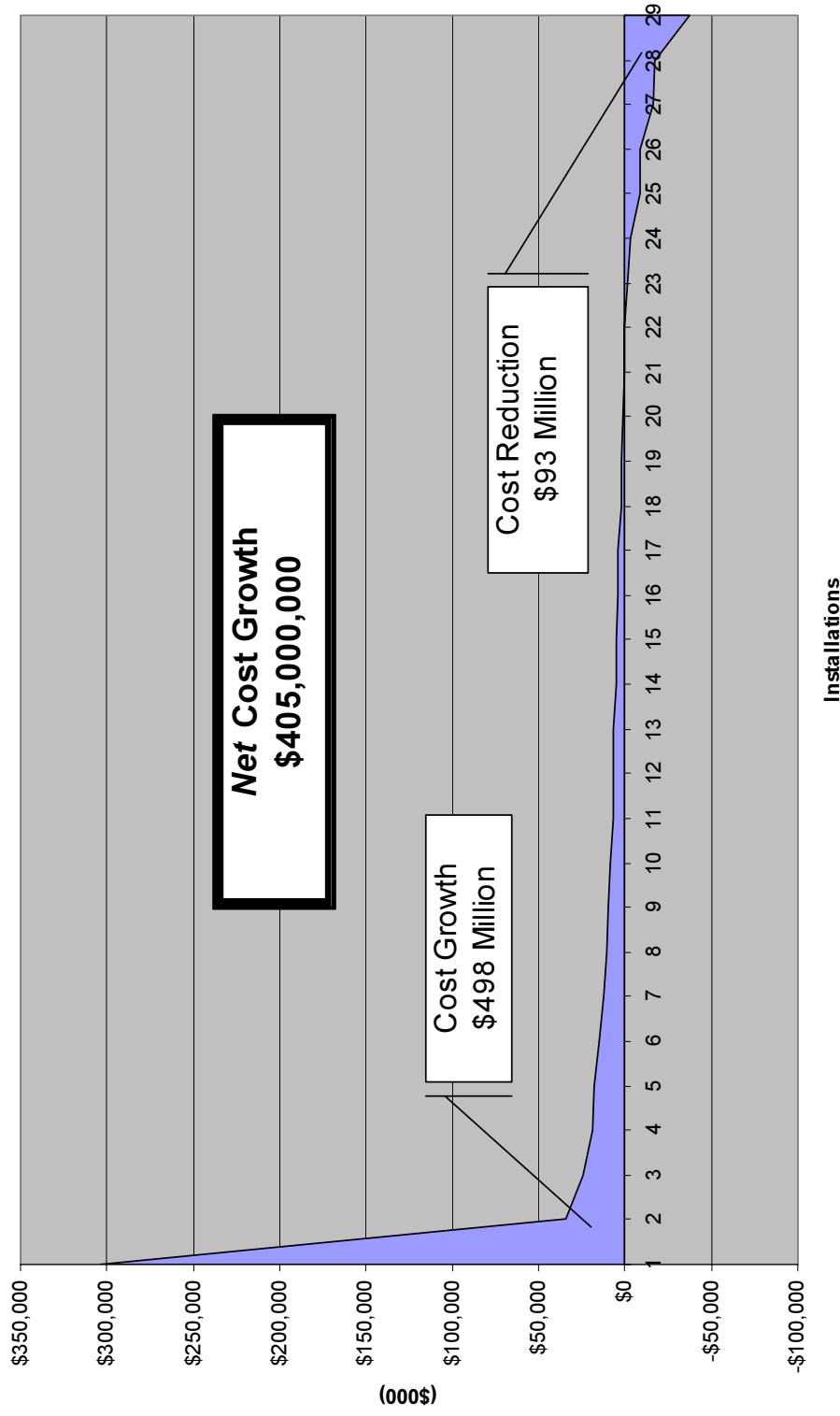
NAVY

Navy Cost Growth vs Reductions



AIR FORCE

Air Force Cost Growth vs Reductions



SUMMARY DATA*

Total Bases	Totally Disposed	Partially Disposed	No Transfers to Date	More than 1,000 Acres Remaining
155	72	70	13	25

Total Acres	Acres to be Disposed	Total Disposed	Remaining to be Disposed	LIFOCS
1,091,020	537,949	306,800	231,147	93,785

*Services provided data.

OVERALL SUMMARY BY SERVICE

Number of Bases	Army	Navy	Air Force	Total
Total Reported	70	56	29	155
Totally Disposed	39	32*	1	72
Partially Disposed	21	21	28	70
No Acres Disposed	10	3	0	13
Bases with more than 1,000 acres remaining	9	4	12	25

*Navy also completed disposal of 35 Reserve Centers not included in this analysis.

OVERALL SUMMARY BY SERVICE

ACRES by Category (000)	Army	Navy	Air Force	Total
Total Acres	794	202	95	1,091
To be disposed	290	161	87	538
Disposed to date	179	76	52	307
Remaining to dispose	111	85	35	231
Acres under LIFOCS*	68	2	24	94

*LIFOCS included in acres remaining to dispose.

PRELIMINARY FINDINGS

- Of the 155 BRAC installations that were analyzed*
 - 84 had net CTC increases from FY00-FY04
 - 34 had no change (no change because cleanup was completed before study period)
 - 37 had CTC cost reduction
- 66 installations with more than 20% cost growth

*Based on Service-provided data.

COST GROWTH SUMMARY

84 Bases Had Cost Growth

\$1.460B or 45% of CTC in FY00

\$17M mean

\$4.8M median

Range \$11K to \$304M

82 Bases* Had Cost Growth

\$978M or 40% of CTC in FY00

\$12M mean

\$4.6M median

Range \$11K to \$133M

* Excluding McClellan and Hunters Point.

COST REDUCTION SUMMARY

34 Bases Had No Cleanup Expenses

37 Bases Had Cost Reductions

\$308M or 28% of CTC in FY00

\$8.3M mean

\$3.3M median

Range \$10K to \$81M

PRIVATIZED CLEANUPS*

ESCAPS and GFPRs (\$000)

25 Bases (CTC in FY00 = \$1.101B)

	<u>ESCAPS</u>	<u>GFPRs</u>
11 Army	(4) \$83,956	(7) \$40,476
4 Navy	(4) \$150,400	0
10 Air Force	0	(10) \$17,871
Totals	\$234,356	\$58,347

or 27% of CTC in FY00 for those bases

*Data does not include Charleston Navy Base or Army Presidio at San Francisco fixed-price cleanups that predated this analysis.

PRIVATIZED CLEANUPS VS COST GROWTH

25 Bases (net growth \$208M or 19% of CTC FY00)

18 Bases Had Cost Growth \$235M or 25% of CTC in FY00
\$13M mean
\$9M median
Range \$608K to \$35M

7 Bases Had Cost Reductions \$29M or 20% of CTC in FY00
\$4M mean
\$3M median
Range \$10K to \$9M

EARLY TRANSFERS WITH “RETAINED” CLEANUPS

5 Bases (net reduction of \$5.7M or 7% of CTC FY00)

2 Bases Had Cost Growth

\$9.8M or 62% of CTC in FY00

\$4.9M mean

Range \$1.3M to \$8.6M

3 Bases Had Cost Reductions

\$15.5M or 24% of CTC in FY00

\$5.2M average

Range \$3.3M to \$7.9M range

PRELIMINARY OBSERVATIONS AND FINDINGS

Finding: Bases where cleanup was privatized (even partially) experienced lower rates of cost growth

Reasons could be:

- Bases were well, or better, characterized, or
- Cleanups were not complicated, or
- Because some or all of cleanup costs were *locked by fixed-price ESCAs or GFPRs*

Team decided the latter reason is most compelling because fence-to-fence industrial cleanups including UXO were privatized successfully for a fixed price. This is largely substantiated by complex, large-scale, fixed-price contracts at Charleston Naval Complex, SC and Mare Island Shipyard, CA where cost growth was effectively contained using this approach.

ADDITIONAL FINDINGS

- Cost growth is seen at more bases and in greater percentages and absolute dollars than the few cost reductions realized by continued Government-managed cleanup.
- Several bases with unexpected additional costs, where no CTC was projected, resulted from newly discovered contamination. These were negligible percentages in terms of transferred sites or dollars.
- “Early Transfer” with retained cleanup does not limit potential for cost growth. The more mature sites in this category experienced higher than average cost growth after transfer. The more recent transfers are predicting significant cost reductions but work has not been completed.
- Recent legislation that provides authority to convey real property for natural resource conservation purposes provides potential for Services to transfer BRAC property, reduce cleanup costs, and provide conservation groups with funds for essential cleanup and long-term management of institutional controls.

CONCLUSIONS

- **No legal barriers to early transfers or fixed-price cleanups**
- **Findings indicate that cleanup costs continue to escalate as bases near completion – same pattern for all the Services**
- **Data show possible indication that escalation is reduced when bases were privatized (even partially) because costs are locked – true for all the Services**
- **Early transfer with retained cleanup does not necessarily limit cost growth – mature projects experienced significant growth**

CONTRIBUTING FACTORS

- Early transfers shift reuse and remediation decisions to new owner
- Fixed-price cleanups with insurance provides indemnification for Government from cost growth and discovery of unknown contaminants
- New owner is in a better position to negotiate regulatory closure
 - Link cleanup to reuse
 - Integrate cleanup with redevelopment
 - Accelerated reuse benefits jobs/taxes/revenues
 - Focuses decision-making at local level
- Government representatives encumbered by national implications of local decisions

FUTURE WORK

- **Linking type of base with types of contaminants typically encountered**
- **History of cost growth or reduction by type of base or contaminants**
- **Developing “predictive” models for estimating future cleanup costs by type of base (to be developed based on work previously performed on similar models)**

- **Similar analysis for active bases to determine cost growth/savings patterns over time**

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Appendix A

GLOSSARY

Appendix A

GLOSSARY

BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CTC	cost-to-complete
DERP	Department of Defense Environmental Restoration Program
DoD	Department of Defense
ESCA	Environmental Services Cooperative Agreement
GFPR	guaranteed fixed price remediation
LIFOC	leased in furtherance of conveyance
OSD	Office of the Secretary of Defense
PA&E	Program Analysis and Evaluation
UXO	unexploded ordnance

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
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<p>This study was undertaken to: (a) identify and evaluate approaches to accelerate the transfer of military lands designated as Base Realignment and Closure (BRAC) sites to the private sector; (b) assess the total costs and/or time savings from privatization and fixed price contracting; and (c) identify methods to limit cost growth using expedited transfer of DoD properties.</p> <p>It is hoped that future work will attempt to provide a methodology to prioritize selection of bases for accelerated transfer for closure during future BRAC rounds.</p>				
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